

ARIZONA DEPARTMENT OF HEALTH SERVICES
BUREAU OF EMERGENCY MEDICAL SERVICES AND TRAUMA SYSTEM



COUNTY TRAUMA REPORTS:
COCHISE COUNTY
ASTR 2012

Prepared by:
Maureen Brophy, MPH
Vatsal Chikani, MPH
Rogelio Martinez, MPH

Data and Quality Assurance

Purpose:

The purpose of this report is to describe the incidence of trauma in your county using the Arizona State Trauma Registry (ASTR). This information can develop and strengthen injury prevention programs at the county level.

Methods:

In 2012, the Arizona State Trauma Registry (ASTR) received data from 31 state-designated trauma centers. Three additional healthcare institutions participated in the registry but were not designated. The Arizona trauma system had eight Level I trauma centers - six were located in the central county of Maricopa with 60 percent of the state's population; the remaining two Level I trauma centers were located in the northern-most county of Coconino and the southern county of Pima. For the 2012 reporting year, there were twenty designated Level IV and three Level III trauma centers dispersed primarily in the rural areas of the state. There are a total of 32,602 records in the ASTR for 2012.

Limitations:

Data is limited to participating hospitals in the state. Information on patients that were treated at out of state and non-participating hospitals will be missed. Injuries included in this registry are those which fit the ASTR inclusion criteria (Appendix 1). As such, injuries reported are reflective of severe injuries, and may not be a complete picture of injury in your county.

Geo-Population:

Arizona is 400 miles long and 310 miles wide for a total area of 114,006 square miles. The topography of the state is 364 square miles of water and a blend of deserts, mountains, and plateaus. Arizona shares contiguous borders with the states of California, Colorado, Nevada, New Mexico, and Utah. Internationally, the Mexican states of Sonora, Chihuahua, and Baja California Norte share a border with Arizona.

The total reported population in 2012 was 6,498,570; this was up from the 2011 reported number of 6,438,178 residents.¹ In 2012, 84.2 percent of the population lived in urban counties (Maricopa, Pima, Pinal, and Yuma). The remaining counties (Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Santa Cruz, and Yavapai) were home to 15.8 percent of the population.

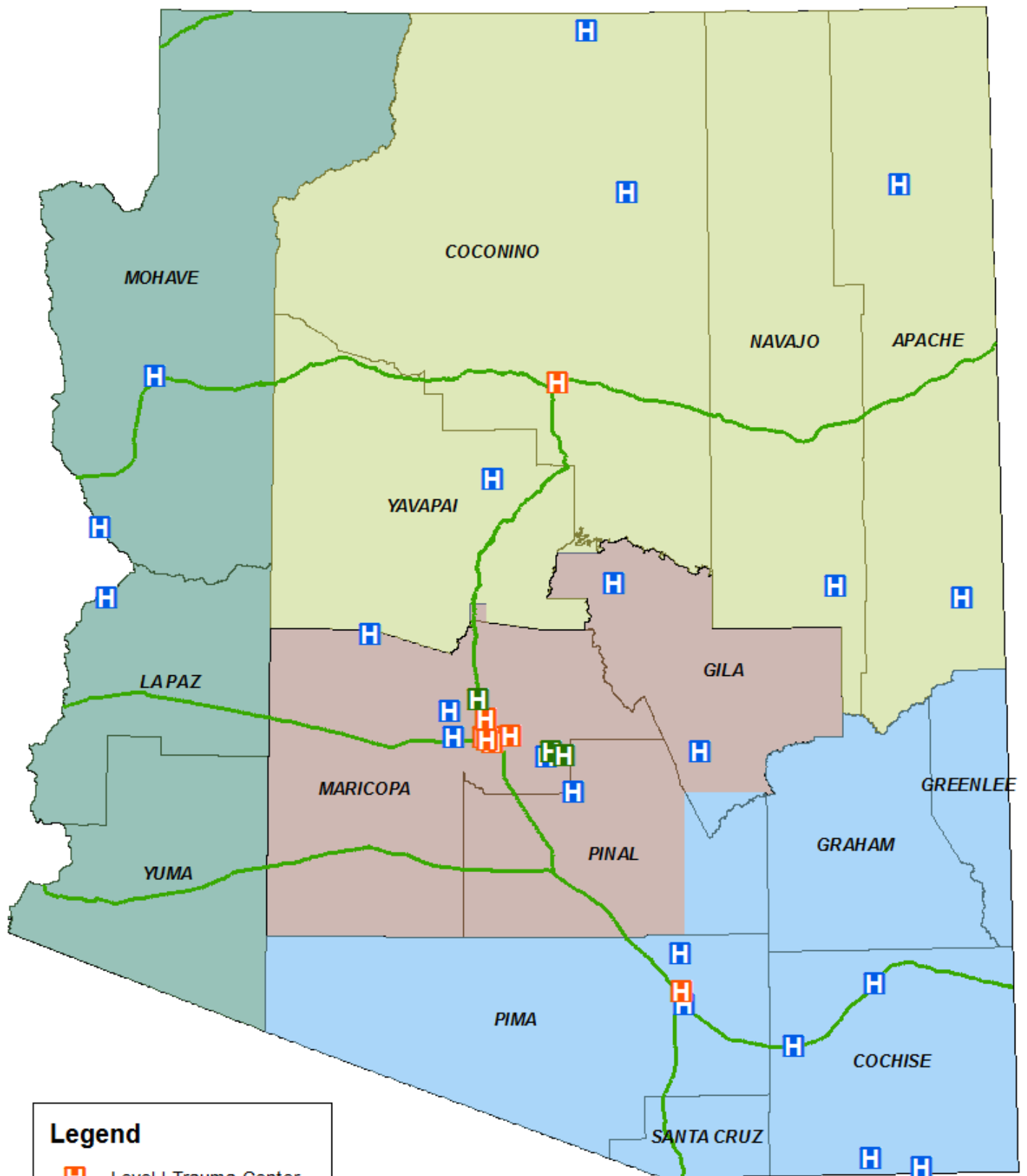
Additionally, Arizona has within its borders twenty-two (22) federally recognized American Indian tribes, comprising a 2012 collective population of 305,029.

¹ <http://www.azdhs.gov/plan/menu/info/pop/index.php?pg=2012>

| Health Care Institution | Address | Effective Date | Expiration |
|--|---|----------------|------------|
| Level I Trauma Centers | | | |
| Banner Good Samaritan Medical Center | 925 E. McDowell Rd., Phoenix, AZ 85006 | 11/19/11 | 11/19/14 |
| Dignity Health, dba Chandler Regional Medical Center (Provisional Designation) | 1955 W. Frye Rd., Chandler, AZ 85224 | 3/24/14 | 9/24/15 |
| Flagstaff Medical Center | 1200 N. Beaver St., Flagstaff, AZ 86001 | 05/27/14 | 05/27/17 |
| John C. Lincoln - North Mountain | 250 E. Dunlap Ave., Phoenix, AZ 85020 | 04/24/14 | 04/24/15 |
| Maricopa Medical Center | 2601 E. Roosevelt, Phoenix, AZ 85008 | 12/20/11 | 12/20/14 |
| Phoenix Children's Hospital | 1919 E. Thomas Rd., Phoenix, AZ 85016 | 08/31/12 | 08/31/15 |
| St. Joseph's Hospital & Medical Center | 350 W. Thomas Rd., Phoenix, AZ 85013 | 11/20/13 | 11/20/16 |
| Scottsdale Healthcare – Osborn | 7400 E. Osborn, Scottsdale, AZ 85251 | 10/25/11 | 10/25/14 |
| The University of Arizona Medical Center – University Campus | 1501 N. Campbell Ave., Tucson, AZ 85724 | 11/12/11 | 11/12/14 |
| West Valley Hospital | 13677 W. McDowell Road, Goodyear, AZ 85395 | 7/21/14 | 1/21/16 |
| Level III Trauma Centers | | | |
| Banner Baywood Medical Center | 6644 E. Baywood Ave., Mesa, AZ 85206 | 05/12/14 | 02/25/15 |
| John C. Lincoln Deer Valley Hospital | 19829 N. 27 th Ave., Phoenix, AZ 85027 | 06/09/14 | 4/08/17 |
| Mountain Vista Medical Center | 1301 S. Crismon Rd., Mesa, AZ 85209 | 7/23/14 | 7/26/16 |
| Level IV Trauma Centers | | | |
| Banner Boswell Medical Center | 10401 W. Thunderbird Blvd., Sun City, AZ 85351 | 12/17/12 | 12/17/15 |
| Banner Del E. Webb Medical Center | 14502 W. Meeker Blvd, Sun City West, AZ 85375 | 01/09/14 | 01/09/17 |
| Banner Estrella Medical Center | 9201 W. Thomas Road, Phoenix, AZ 85037 | 08/30/12 | 08/30/15 |
| Banner Gateway Medical Center | 1900 N. Higley Road, Gilbert, AZ 85234 | 01/02/13 | 01/02/16 |
| Banner Ironwood Medical Center | 37000 N. Gantzel Rd., San Tan Valley, AZ 85140 | 10/11/12 | 10/11/15 |
| Banner Page Hospital | 501 N. Navajo, Page, AZ 86040 | 11/05/11 | 11/05/14 |
| Benson Hospital | 450 S. Ocotillo Ave., Benson, AZ 85602 | 03/03/14 | 03/03/17 |
| Chinle Comprehensive Health Care Facility | P.O. Drawer PH, Chinle, AZ 86503 | 09/09/13 | 09/09/16 |
| Cobre Valley Regional Medical Center | 5880 S. Hospital Dr., Globe, AZ 85501 | 11/26/12 | 11/26/15 |
| Copper Queen Community Hospital | 101 Cole Ave., Bisbee, AZ 85603 | 12/01/12 | 12/01/15 |
| Havasupai Regional Medical Center | 101 Civic Center Ln., Lake Havasu City, AZ 86403 | 01/20/14 | 01/20/17 |
| Kingman Regional Medical Center | 3269 Stockton Hill Rd., Kingman, AZ 86409 | 10/15/12 | 10/15/15 |

| Health Care Institution | Address | Effective Date | Expiration Date |
|---|--|----------------|-----------------|
| La Paz Regional Hospital | 1200 W. Mohave Rd., Parker, AZ 85344 | 06/02/12 | 06/02/15 |
| Mt. Graham Regional Medical Center | 1600 S. 20 th Ave., Safford, AZ 85546 | 03/20/14 | 03/20/17 |
| Northern Cochise Community Hospital | 901 W. Rex Allen Dr., Willcox, AZ 85643 | 12/04/11 | 12/04/14 |
| Oro Valley Hospital | 1551 East Tangerine Road, Oro Valley, AZ 85755 | 4/18/13 | 4/18/16 |
| Payson Regional Medical Center | 807 S. Ponderosa Street, Payson, AZ 85541 | 11/22/13 | 11/22/16 |
| Summit Healthcare Regional Medical Center | 2200 Show Low Lake Rd., Show Low, AZ 85901 | 08/12/14 | 08/12/17 |
| The University of Arizona Medical Center South Campus | 2800 E. Ajo Way, Tucson, AZ 85713 | 08/13/13 | 08/13/16 |
| Tuba City Regional Health Care Corp. | P.O. Box 600, Tuba City, AZ 86045 | 05/06/12 | 05/06/15 |
| Verde Valley Medical Center | 269 S. Candy Ln., Cottonwood, AZ 86326 | 08/18/11 | 08/18/14 |
| White Mountain Regional Medical Center | 118 S. Mountain Ave., Springerville, AZ 85938 | 06/18/12 | 06/18/15 |
| Wickenburg Community Hospital | 520 Rose Ln., Wickenburg, AZ 85390 | 08/08/14 | 08/08/17 |
| Yavapai Regional Medical Center – West Campus | 1003 Willow Creek Road, Prescott, AZ 86301 | 01/10/14 | 01/10/17 |
| Yavapai Regional Medical Center – East Campus | 7700 E. Florentine, Prescott Valley, AZ 86314 | 6/24/14 | 6/24/17 |

Updated as of October 1, 2014



Legend




-  Level I Trauma Center
-  Level III Trauma Center
-  Level IV Trauma Center

FIGURE 1: Cochise County population by age, gender, and race/ethnicity, AZ Health & Vital Statistics

| Group | | Population | Percent |
|----------------|----------------------------------|------------|---------|
| Age | <1 | 1,681 | 1.3% |
| | 1-4 | 6,783 | 5.2% |
| | 5-9 | 8,140 | 6.2% |
| | 10-14 | 8,180 | 6.3% |
| | 15-19 | 9,104 | 7.0% |
| | 20-24 | 8,165 | 6.3% |
| | 25-29 | 8,868 | 6.8% |
| | 30-34 | 7,521 | 5.8% |
| | 35-39 | 7,256 | 5.6% |
| | 40-44 | 7,353 | 5.6% |
| | 45-49 | 8,379 | 6.4% |
| | 50-54 | 9,107 | 7.0% |
| | 55-59 | 8,875 | 6.8% |
| | 60-64 | 8,572 | 6.6% |
| | 65-69 | 7,419 | 5.7% |
| | 70-74 | 5,788 | 4.4% |
| | 75-79 | 4,138 | 3.2% |
| | 80-84 | 2,896 | 2.2% |
| | 85+ | 2,312 | 1.8% |
| Gender | Male | 66,521 | 51.0% |
| | Female | 64,016 | 49.0% |
| Race/Ethnicity | White non-Hispanic | 78,083 | 59.8% |
| | Hispanic or Latino | 40,989 | 31.4% |
| | Black or African American | 5,734 | 4.4% |
| | American Indian or Alaska Native | 2,599 | 2.0% |
| | Asian or Pacific Islander | 3,132 | 2.4% |
| Total | | 130,537 | 100% |

FIGURE 2: Trauma frequency and rate per 100,000 by county

| County of Injury | Total Population | Percent of Population | Trauma Count | Percent of All Traumas | Trauma Rate per 100,000 |
|------------------|------------------|-----------------------|--------------|------------------------|-------------------------|
| Apache | 72,310 | 1.1% | 742 | 2.3% | 1,026 |
| Cochise | 130,753 | 2.0% | 1,127 | 3.5% | 862 |
| Coconino | 134,313 | 2.1% | 1,853 | 5.7% | 1,380 |
| Gila | 53,627 | 0.8% | 551 | 1.7% | 1,027 |
| Graham | 37,313 | 0.6% | 119 | 0.4% | 319 |
| Greenlee | 8,599 | 0.1% | 41 | 0.1% | 477 |
| La Paz | 20,902 | 0.3% | 156 | 0.5% | 746 |
| Maricopa | 3,884,706 | 59.8% | 14,873 | 45.6% | 383 |
| Mohave | 203,072 | 3.1% | 970 | 3.0% | 478 |
| Navajo | 107,922 | 1.7% | 873 | 2.7% | 809 |
| Pima | 990,380 | 15.2% | 4,925 | 15.1% | 497 |
| Pinal | 389,192 | 6.0% | 1,738 | 5.3% | 447 |
| Santa Cruz | 48,725 | 0.7% | 180 | 0.6% | 369 |
| Yavapai | 211,582 | 3.3% | 1,037 | 3.2% | 490 |
| Yuma | 205,174 | 3.2% | 2,062 | 6.3% | 1,005 |
| Other | - | - | 552 | 1.7% | - |
| Total | 6,498,570 | 100% | 32,602 | 97.5% | 502 |
| Missing = 803 | | | | | |

Statewide, there were 32,602 traumatic injuries seen at state designated trauma centers– a rate of 502 per 100,000 Arizona residents.

Cochise County makes up about two percent of the total population of Arizona. Injuries occurring in the county make up about 3.5 percent of the trauma cases from state designated trauma centers. The county-specific trauma rate, 862 per 100,000 county residents, is higher than the state average (Figure 3).

FIGURE 3: County-specific trauma rates per 100,000 residents

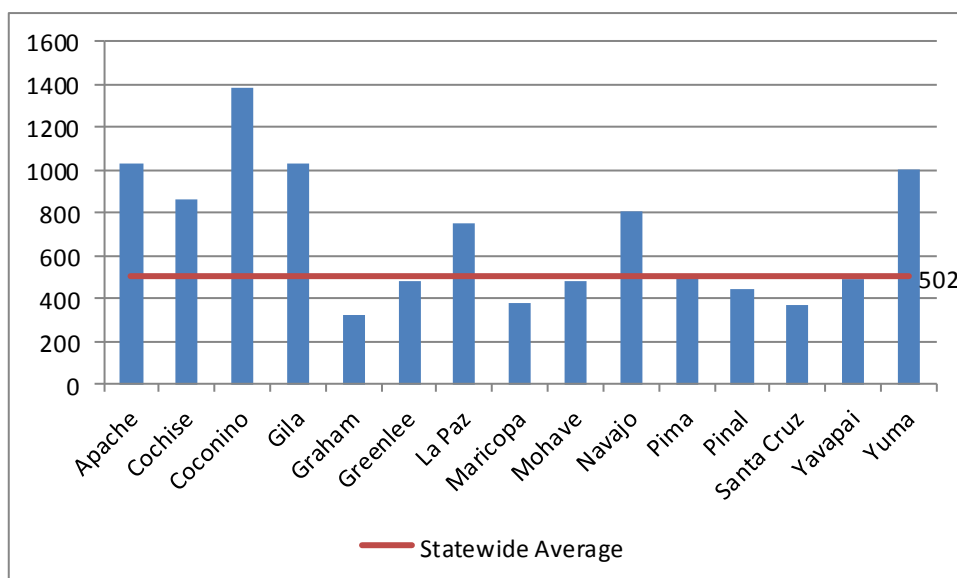


FIGURE 4: Frequency and rate of trauma by age, race/ethnicity, and gender in Cochise County

| Group | | Count | Percent | Rate per 100,000 |
|----------------|-------------------------------|-------|---------|------------------|
| Age | <1 | 40 | 3.6% | 2,072 |
| | 1-4 | 42 | 3.7% | 574 |
| | 5-9 | 43 | 3.8% | 551 |
| | 10-14 | 45 | 4.0% | 556 |
| | 15-19 | 96 | 8.5% | 1,060 |
| | 20-24 | 85 | 7.5% | 976 |
| | 25-34 | 141 | 12.5% | 856 |
| | 35-44 | 106 | 9.4% | 760 |
| | 45-54 | 104 | 9.2% | 632 |
| | 55-64 | 131 | 11.6% | 751 |
| | 65-74 | 114 | 10.1% | 823 |
| | 75-84 | 106 | 9.4% | 1,444 |
| | 85+ | 74 | 6.6% | 3,181 |
| Gender | Female | 442 | 39.3% | 687 |
| | Male | 684 | 60.7% | 1,030 |
| Race/Ethnicity | Hispanic | 519 | 46.1% | 1,229 |
| | White | 560 | 49.7% | 712 |
| | American Indian/Alaska Native | * | * | * |
| | Black/African American | 18 | 1.6% | 331 |
| | Asian or Pacific Islander | * | * | * |
| Total | | 1,126 | 100.0% | 862 |

* 10 or fewer observations

The trauma rate is higher in Cochise County for all age groups except the 1-4 (Figure 4), as compared to the rest of the state. The highest trauma rate is among the >85 age group (3,181 traumatic injuries per 100,000 county residents).

FIGURE 5: Trauma rate per 100,000 residents by age

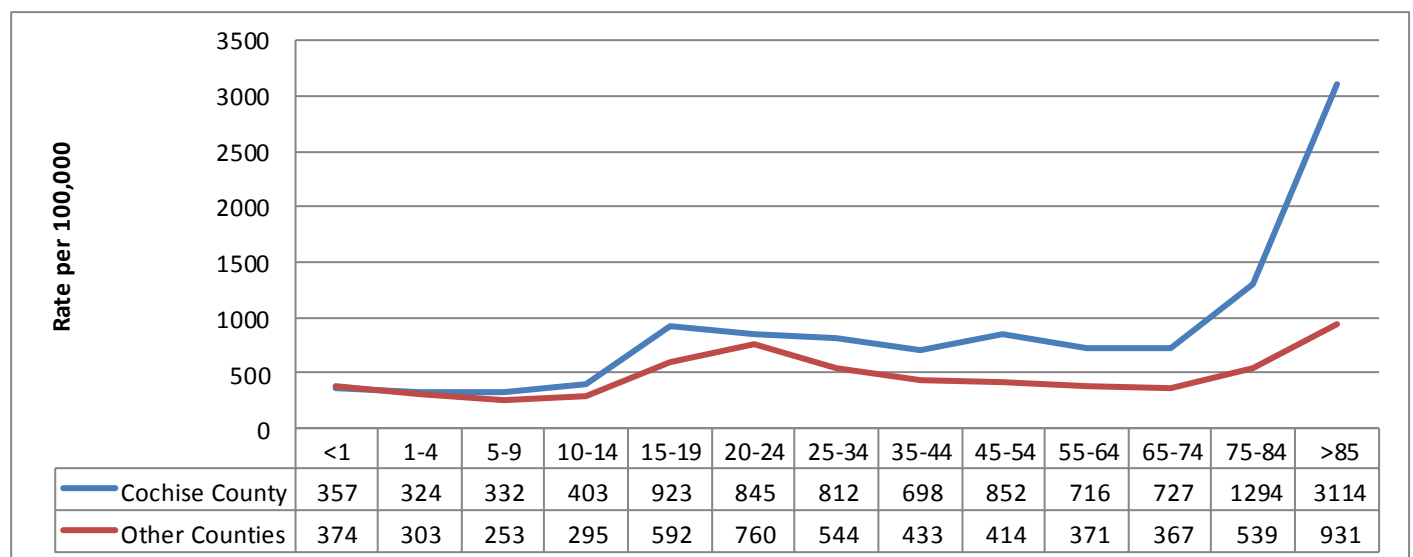
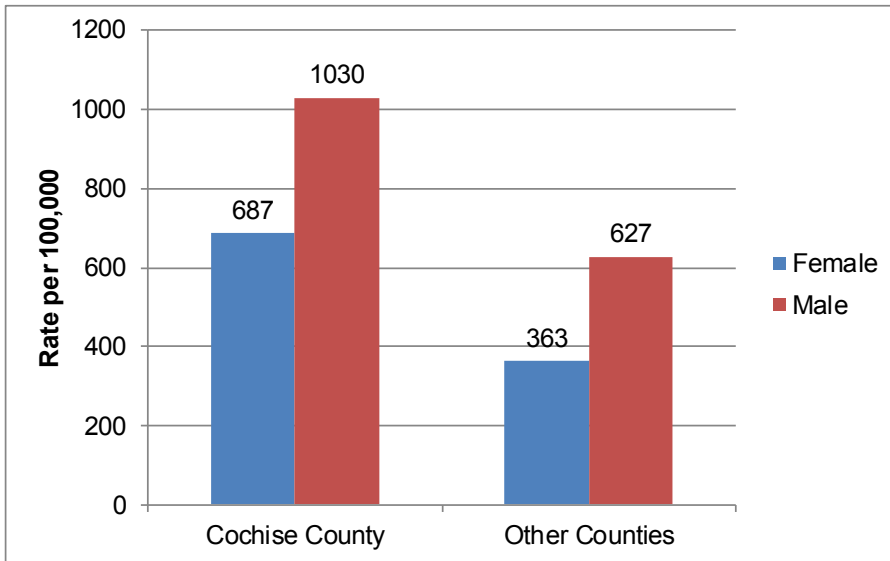
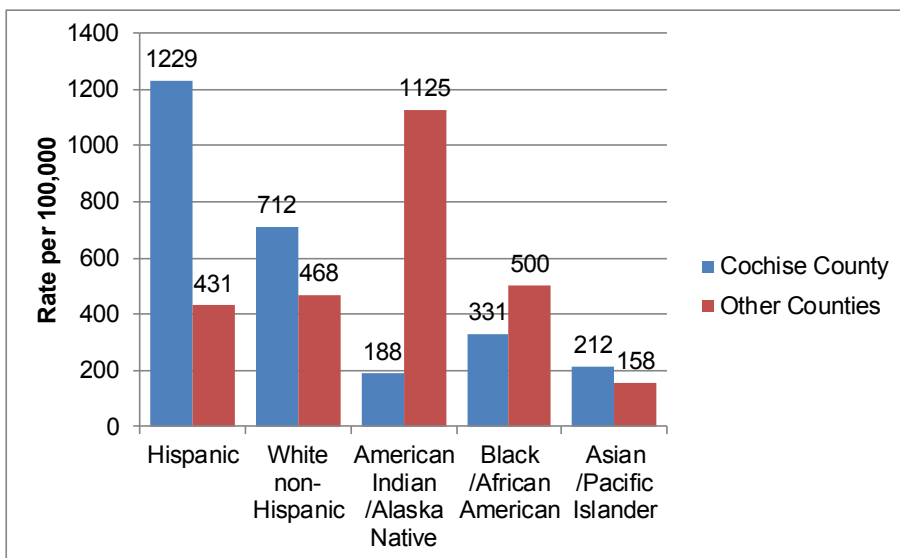


FIGURE 6: Trauma rate per 100,000 residents by gender



Both males and females in Cochise County have a higher rate of trauma than their counterparts in other counties (Figure 6).

FIGURE 7: Trauma rate per 100,000 residents by race/ethnicity



Hispanics and Whites in Cochise County have a higher trauma rate than in other counties (Figure 7).

Figure 9 shows the top causes of traumatic injury in Cochise County, as compared with other counties (rates per 100,000).

FIGURE 8: Frequency of top causes of trauma in Cochise County

| Cause | Count | Percent |
|-----------------------|-------|---------|
| Falls | 485 | 31.27% |
| Motor Vehicle Traffic | 263 | 27.49% |
| Struck by/Against | 93 | 14.29% |
| Transport, other | 61 | 8.63% |
| Unspecified | 34 | 5.53% |
| Other Specified | 24 | 3.91% |

FIGURE 9: Top causes of trauma, rates per 100,000 residents

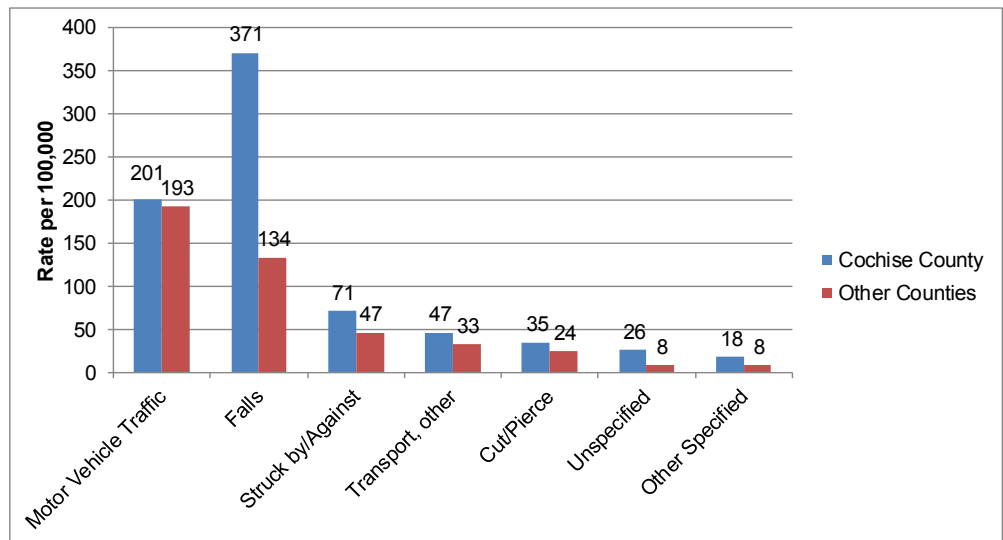
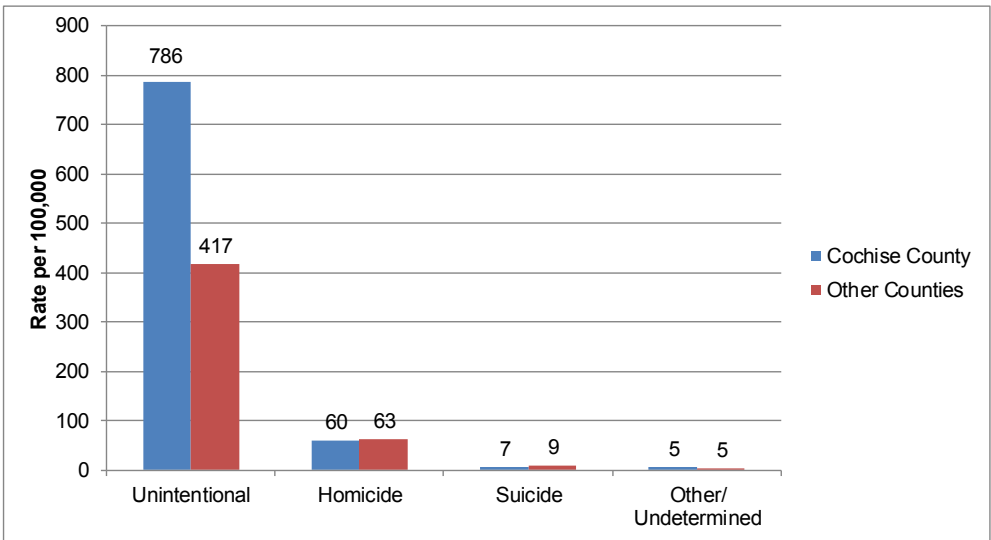


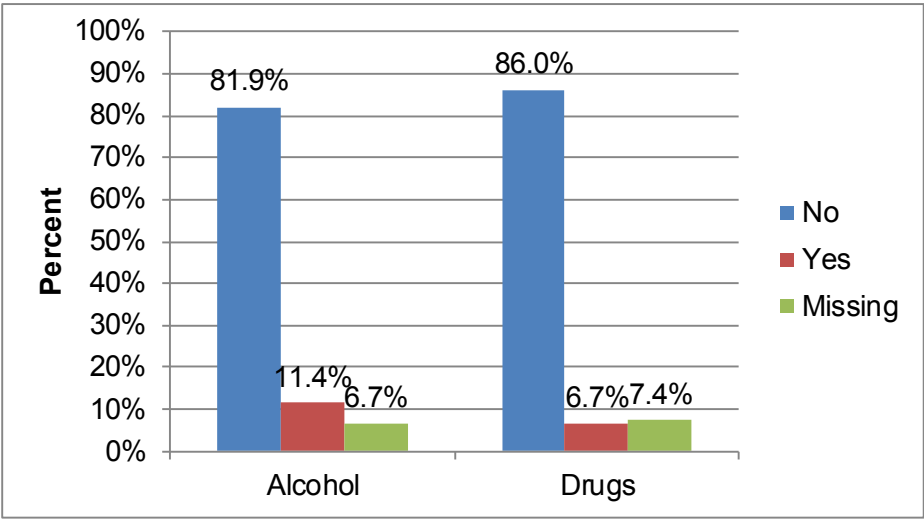
FIGURE 10: Intention of trauma, rate per 100,000 residents



The rate of unintentional injuries in Cochise County are higher than in other Arizona counties (Figure 10).

Documented alcohol and drug use was present in 6.4% and 4.2% of traumatic injuries in Cochise County, respectively (Figure 11).

FIGURE 11: Substance use in traumatic injuries in Cochise County



Alcohol and drug use is defined as any indication of use through testing or self-report, regardless of level of impairment.

The amount of missing data on drug and alcohol use has dramatically decreased in Cochise County from 2011 to 2012.

FIGURE 12: Frequency of substance use in traumatic injuries in Cochise County

| Substance Use | | Frequency | Percent |
|---------------|---------|-----------|---------|
| Alcohol | No | 388 | 38.5% |
| | Yes | 65 | 6.4% |
| | Missing | 556 | 55.1% |
| | Total | 1,009 | 100% |
| Drugs | No | 406 | 40.2% |
| | Yes | 42 | 4.2% |
| | Missing | 561 | 55.6% |
| | Total | 1,009 | 100% |

FIGURE 13: Proportion of ground and air ambulance transports in Cochise County

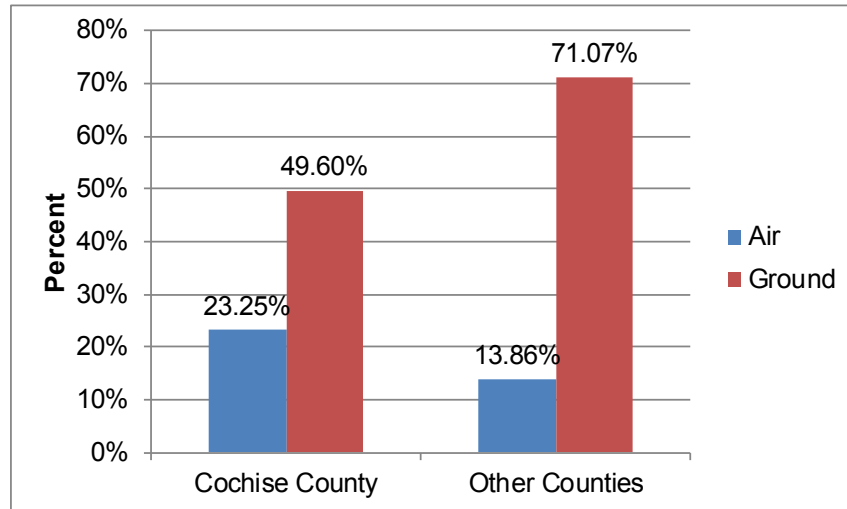


FIGURE 14: Count of ground and air ambulance transports

| | Air | Ground | Other | Missing |
|-----------------------|-------|--------|-------|---------|
| Cochise County | 262 | 559 | 304 | 2 |
| Other Counties | 4,362 | 22,368 | 4,639 | 106 |

The term “golden hour” refers to the hour immediately following traumatic injury. Theoretically, the chance of survival is highest when medical treatment to prevent irreversible internal damage is obtained within this time period.

Due to the large amount of missing data on golden hour, results on the proportion of patients arriving at the hospital within 1 hour are not conclusive.

FIGURE 15: Golden hour by transport type

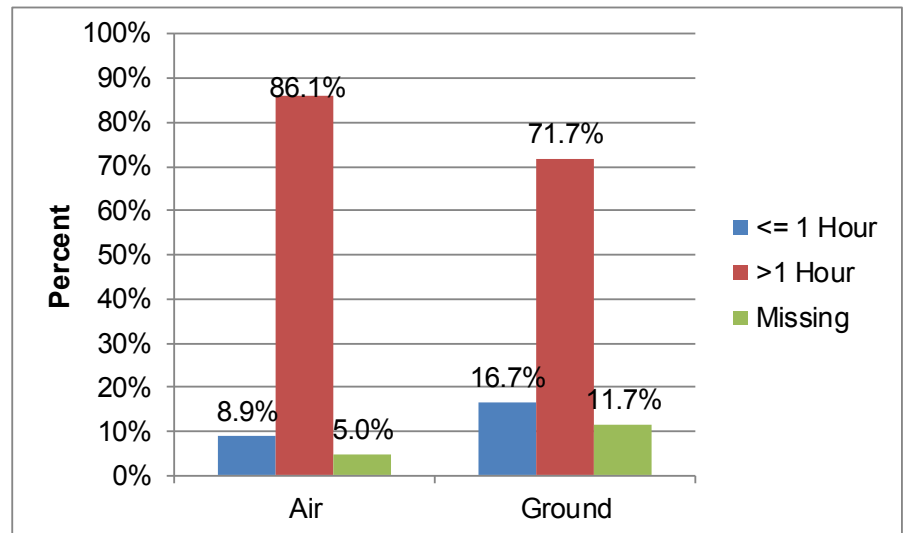


FIGURE 16: Count of golden hour by transport type to trauma center

| Golden Hour | Air Ambulance | | Ground Ambulance | | Total | |
|--------------|---------------|-------------|------------------|-------------|------------|-------------|
| | Count | Percent | Count | Percent | Count | Percent |
| <= 1 Hour | 16 | 8.89% | 10 | 16.67% | 26 | 10.83% |
| > 1 Hour | 155 | 86.11% | 43 | 71.67% | 198 | 82.50% |
| Missing | 9 | 5.00% | 7 | 11.67% | 16 | 6.67% |
| Total | 180 | 100% | 60 | 100% | 240 | 100% |

FIGURE 17: Primary payer in Cochise County

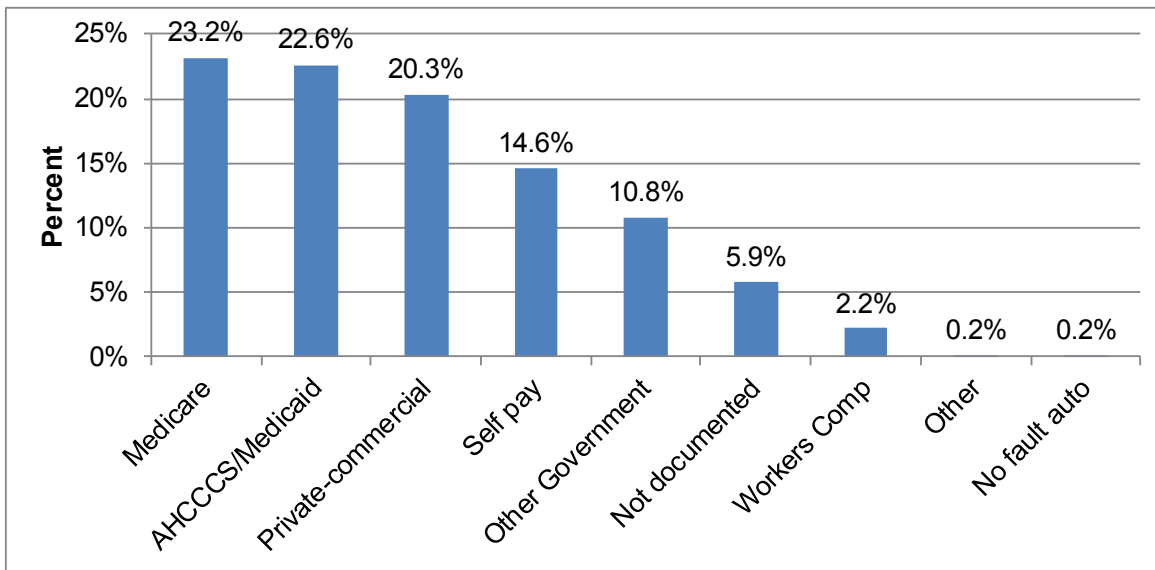


FIGURE 18: Count of primary payer in Cochise County

| Primary Payer | Frequency | Percent |
|--------------------|-----------|---------|
| Medicare | 261 | 23.2% |
| AHCCCS/Medicaid | 255 | 22.6% |
| Private-commercial | 229 | 20.3% |
| Self pay | 165 | 14.6% |
| Other Government | 122 | 10.8% |
| Not documented | 66 | 5.9% |
| Workers Comp | 25 | 2.2% |
| Other | * | * |
| No fault auto | * | * |

Medicare is the primary payment source for trauma-related hospital visits in Cochise County (Figures 17 & 18).

The median charge in Cochise County in 2012 was \$7,404 (Figure 19).

FIGURE 19: Charges & reimbursement by primary payer in Cochise County

| Primary Payer | Total Charges | Median Charges | Total Reimbursement |
|--------------------|---------------|----------------|---------------------|
| Medicare | \$8,059,066 | \$9,687 | \$1,705,886 |
| AHCCCS/Medicaid | \$3,617,269 | \$3,827 | \$457,437 |
| Private-commercial | \$4,921,537 | \$8,589 | \$1,498,808 |
| Self pay | \$3,240,726 | \$9,014 | \$86,945 |
| Other Government | \$2,326,467 | \$9,183 | \$309,771 |
| Not documented | \$110,045 | \$10,180 | \$18,304 |
| Workers Comp | \$71,511 | \$2,117 | \$26,882 |
| Other | \$3,702 | \$1,851 | \$33 |
| No fault auto | \$16,910 | \$8,455 | \$0 |
| Total | \$22,367,233 | \$7,404 | \$4,104,068 |